

California Regional Water Quality Control Board  
Santa Ana Region

FACT SHEET

GENERAL WASTE DISCHARGE REQUIREMENTS FOR CONCENTRATED ANIMAL  
FEEDING OPERATIONS (DAIRIES AND RELATED FACILITIES) WITHIN THE  
SANTA ANA REGION, ORDER NO. 99-11, NPDES NO. CAG018001

**I. Need for General Waste Discharge Requirements**

There are approximately 302 animal feeding operations (AFOs), including dairies, heifer ranches and calf nurseries in the Santa Ana Region. These AFOs contain about 370,000 animals [213,000 lactating (milking) cows, 37,000 dry (pregnant) cows, 56,000 heifers (12-18 month old cows), and 60,000 calves (less than 12 month old cows)]. Two hundred and seventy nine of these facilities (320,000 animals) are located in the Chino Basin, while 23 of the facilities (50,000 animals) are located in the San Jacinto Basin. The wastes generated at these facilities include manure, wash water<sup>1</sup> and storm water runoff from manured areas. About 950,000 tons of manure (at 33% moisture) were produced in the corrals by these facilities in 1998. This is equivalent to about 4,000,000 cubic yards of manure (at 33% moisture). About 15 million gallons of washwater, which contains about 10% of the manure produced by milking cows, is discharged to the ground each day. Wastes produced at AFOs contain high levels of bacteria, biochemical oxygen demand, ammonia, nitrate, phosphorus, and other salts.

Wastes in rainfall runoff from AFOs in the Chino Basin affect Chino Creek, Mill Creek and Reach 3 of the Santa Ana River, which are 303(d) listed impacted water bodies. Wastes from AFOs that are discharged to the Santa Ana River also affect the quality of groundwater in Orange County, since the Orange County Water District captures and percolates a significant amount of the flow of the Santa Ana River to recharge the Santa Ana Forebay Groundwater Subbasin. The Chino Basin is considered to have the highest concentration of dairy animals in the world, with its 279 facilities and 320,000 animals located within an area of less than 50 square miles (30,000 acres). The application of manure to the ground in the Chino Basin has resulted in significant groundwater pollution, specifically total dissolved solids (TDS) and nitrate. Affected groundwater in the Chino Basin also impacts the quality of the Santa Ana River because the Santa Ana River becomes a gaining stream in the Prado Basin where groundwater from the Chino Basin contributes to the surface flow of the Santa Ana River.

Wastes in surface runoff from AFOs in the San Jacinto Basin affect the San Jacinto River, Canyon Lake and Lake Elsinore. Phosphorus from AFOs is considered to be the primary cause of algae blooms in Lake Elsinore, the largest natural freshwater lake in Southern California. These algae blooms deplete oxygen in the lake, creating fish kills and other conditions which affect the

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<sup>1</sup> Water used to wash cows prior to milking, milking equipment and the milk barn.

economic development and aesthetics of the area. Proper management of wastes from AFOs is essential to protect the surface and groundwater resources of the Region.

Beginning in 1972, and continuing through 1994, the Board's regulatory approach was to issue individual waste discharge requirements to each AFO. Changes in the location, size, number of animals, or operator of these facilities were frequent and necessitated rescinding existing waste discharge requirements and issuing new requirements. The time demands to draft and rescind individual waste discharge requirements far exceeded the staff resources available to do so.

Criteria cited in 40 CFR 122.28 state that general permits may be issued for facilities 1) involving the same or substantially similar types of operations; 2) discharging the same types of wastes; 3) having the same or similar operating conditions; 4) requiring the same or similar monitoring; and 5) that are more appropriately regulated under a general permit rather than individual permits. The types of wastes and appropriate waste discharge requirements for dairies and related facilities are similar. Given this, the AFOs in the Region can be adequately and appropriately regulated by coverage under the terms of a general waste discharge permit.

On February 17, 1994, the Board adopted Order No. 94-7, General Waste Discharge Requirements For Concentrated Animal Feeding Operations, Including Dairies, Within The Santa Ana Region (NPDES NO. CAG018001). Order No. 94-7 has allowed the Board to better utilize staff resources. Currently, approximately 215 AFOs have been enrolled under Order No. 94-7. The remaining AFOs are either covered under individual waste discharge requirements issued prior to 1994, have submitted a Notice of Intent (NOI) to be covered under Order No. 94-7, or have not yet submitted a NOI. AFOs that have submitted a NOI and have not yet been granted coverage under Order No. 94-7 and AFOs that are still covered under individual waste discharge requirements, have not been granted coverage under Order No. 94-7 because they have not yet completed Engineered Waste Management Plans (EWMPs). Order No. 94-7 expired on March 1, 1999. Therefore, it is necessary to renew the waste discharge requirements contained in Order No. 94-7.

Although Order No. 94-7 regulated the discharge of waste from all AFOs (including non-dairy related facilities), the proposed order only addresses the discharge of wastes from dairies and related facilities, such as calf nurseries and heifer ranches. Over 95% of the dischargers enrolled, or waiting to be enrolled, under Order 94-7 are dairies and related facilities. Many of the requirements contained in Order No. 94-7, and this proposed order, are not appropriate for most other types of AFOs. Therefore, persons discharging, or proposing to discharge, wastes from other types of AFOs must obtain coverage under individual waste discharge requirements or another general permit, if one is adopted.

Currently, the larger AFOs are required to get coverage under the State Water Resources Control Board (State Board) General Industrial Storm Water Permit (Order No. 91-13-DWQ) for storm water runoff from their facilities. However, the proposed order consolidates all requirements for AFOs, including those for storm water runoff, into a single permit. Once coverage is granted under

this order, other waste discharge requirements issued by this Regional Board and coverage under the State's General Permit will be terminated.

The Federal Clean Water Act (CWA) states that all concentrated animal feeding operations (CAFOs) are point sources and are subject to NPDES permitting requirements. The CWA defines a CAFO as any AFO that has more than 1,000 animal units (i.e., dairy cattle are considered 1.4 animal units). About 70% of the AFOs in the Region have over 1,000 animal units, and are, therefore, considered CAFOs under the CWA. However, the CWA states that smaller facilities can be designated as CAFOs by the permitting authority (i.e., Regional Board) after considering certain criteria. These criteria include, in part, the location of the AFO relative to surface waters, the slope, rainfall and other factors that increase the likelihood or frequency of discharges, and the impact of the aggregate amount of waste from many small operations in a watershed that exceed that of larger operations. Board staff has determined that all dairies, heifer ranches and calf nurseries in the Region meet one or more of these criteria, and, therefore, should be designated as CAFOs under the CWA. Tentative Order No. 99-11 designates all dairies, heifer ranches and calf nurseries in the Region as CAFOs, and makes them subject to NPDES requirements. Therefore, the acronym "CAFO" will be used to describe all facilities addressed by Tentative Order No. 99-11.

## **II. Basis for Discharge Limitations**

### **Development and Implementation of Engineered Waste Management Plans**

In compliance with the CWA and the California Code of Regulations, Tentative Order No. 99-11 prohibits discharges to any surface water bodies, or tributary thereof, unless rainfall events, either chronic or catastrophic, cause an overflow of process waste water from a facility designed, constructed and operated to contain all process generated waste waters plus the runoff from a 25-year, 24-hour rainfall event. (Title 27, Chapter 7, Subchapter 2, Article 1, Section 22562(a), California Code of Regulations and 40 CFR Part 412). Therefore, process waste water in overflows resulting from rainfall events that are chronic or catastrophic, or are in excess of a 24-hour, 25-year rainfall event, may be discharged to surface water bodies in accordance with requirements specified in this order. To insure that compliance with these requirements is achieved, all CAFOs are required to develop and implement an Engineered Waste Management Plan (EWMP). The guidelines for the preparation of an EWMP are included in Attachment "B" of the proposed order. Attachment "B" is intended to be revised by the Executive Officer in the near future. As with expired Order No. 94-7, Tentative Order No. 99-11 authorizes the Executive Officer to make necessary revisions to "Attachment B".

### **Prohibition on the Application of Manure to Land in the Chino Basin**

The Regional Board has conducted extensive studies on TDS and nitrate using computer models to determine acceptable salt loading rates to groundwater from various land uses, including dairies and other animal confinement facilities. These studies are the basis of the TDS and nitrogen

management plan specified in the Water Quality Control Plan (Basin Plan) for the Region. In accordance with the TDS/nitrogen management plan, since 1972, waste discharge requirements adopted by the Board for CAFOs limited the amount of manure disposal on disposal acreage at CAFOs to 3 (dry) tons (4.38 tons @ 33% moisture) per acre per year to address potential groundwater impacts. The resultant salt load is roughly equivalent to that permitted by the plan for other types of land use when the affected receiving waters have salt assimilative capacity. Dairy manure contains much more salt per unit of nitrogen than other types of fertilizers. The Board's 1990 Dairy Report, "Dairies and Their Relationship to Water Quality Impacts in the Chino Basin", showed that the use of manure as a fertilizer results in two to four times more salt reaching groundwater (up to 10 times more non-nitrate salts) than the use of non-manure commercial fertilizers. For this reason, the use of manure to meet the nutrient needs of crops results in excessive application of salts that are not utilized by plants and which can, therefore, migrate to groundwater. Order No. 94-7 limited manure application to cropland to agronomic rates [up to 12 (dry) tons (17.5 tons @ 33% moisture) per acre per year]. Limiting the amount of manure applied to cropland to agronomic rates was an attempt to minimize the amount of salt that would reach groundwater from the use of manure on cropland, without hindering the effective use of manure as a fertilizer.

Ninety percent of the CAFOs in the Region are located in the Chino Basin, which has severe TDS and nitrate groundwater quality problems. As noted in the Board's Basin Plan, the Chino II and III Groundwater Subbasins lack assimilative capacity for these constituents. For groundwater subbasins without assimilative capacity, additional salt inputs at rates above Basin Plan objectives cannot be allowed (State Water Resources Control Board Order No. 73-4, the Rancho Caballero decision). To meet the Chino Basin groundwater objectives, the discharge of manure and other animal wastes, such as dairy wash water, and their application as fertilizer, cannot be legally permitted unless this salt load is offset. The Basin Plan contains a dairy regulatory strategy that was developed in the Board's 1990 Dairy Report. One element of that strategy addresses waste discharge requirements for manure and wash water disposal and application of wastes to cropland. That element specifies that ongoing manure and wash water disposal or application to cropland in the Chino Basin must be prohibited unless suitable salt offset programs are implemented.

In 1994, the Board was informed that two desalters would be built in the Chino Basin. The Board was also informed that a significant amount of manure would be exported from the Chino Basin by the proposed Chino Basin Co-Composting Facility. It was assumed that after the Chino Basin Co-Composting Facility began operation and began exporting a significant amount of manure, the amount of salt to be extracted from the Chino Basin by the two desalters would be adequate to provide sufficient salt removal to offset the present and projected salt loads from ongoing dairy discharges. Therefore, the Board adopted Order No. 94-7, allowing manure and wash water discharges to continue, on the assumption that adequate salt offsets would be implemented. However, the desalters were never built (although one is now under construction) and the Co-Composting Facility, built in 1995, has never exported the significant amount of manure that had been projected. Therefore, sufficient offsets were not implemented, and manure and wash water discharges, and the use of manure on cropland, have been continuing without adequate salt offsets, in violation of State law.

Board staff estimates that over 13 million tons of manure have been applied in the Chino Basin since the mid-1950's, resulting in over 1.4 million tons of salt that have reached, or will reach, groundwater. The application of about 400,000 tons of manure (@ 33% moisture) per year to disposal land, cropland and ongoing stockpiles in the Chino Basin is continuing. Board staff estimates that the current rate of application of manure and wash water to land in the Chino Basin is resulting in about 34,000 tons of salt that will reach groundwater each year. About 30,000 tons per year is from the application of manure, and about 4,200 tons per year is from the discharge of wash water. A desalter is currently being built in the Chino Basin. The extraction wells that will supply water for the desalter are expected to remove about 11,500 tons of salt per year from the Chino Basin. Kaiser Steel will be credited with an offset of 4,000 tons of this salt each year for a period of 25 years, in accordance with a previous settlement agreement with the Board. The Board has previously indicated that it would accept the remainder of the salt that will be removed from the extraction wells as an offset for continuing discharges from CAFOs in the Chino Basin. However, that amounts to an offset of only 7,500 tons of salt per year, compared to a current CAFO salt loading to groundwater of about 34,000 tons per year. In addition to the 4,200 tons of salt that reaches groundwater each year from wash water discharges, salt also is discharged to groundwater as a result of the percolation of rainfall runoff from corrals and drainage from manure stockpiles. The amount of salt that reaches groundwater each year from the percolation of rainfall runoff from corrals and percolation of drainage from manure stockpiles has not yet been adequately determined. However, staff believes that it may account for the remaining 3,800 tons of salt offset provided by the desalter, leaving no, or very little, salt offset available for continued manure application in the Chino Basin. No other mitigation measures are currently in place, and none are expected to be in place immediately, to offset the salt loading from ongoing manure application in the Chino Basin. Therefore, the discharge of manure and its application as fertilizer in the Chino II and Chino III Subbasins must be prohibited. The remainder of the subbasins in the Chino Basin are of excellent quality and are tributary to the Chino II and Chino III Subbasins. Also, the addition of salt to those subbasins by the application of manure was not considered when the assimilative capacity for those subbasins was determined. Therefore, Tentative Order No. 99-11 prohibits the discharge of manure and its application as fertilizer throughout the entire Chino Basin (The accompanying cease and desist order allows manure to continue to be applied to cultivated croplands within the Chino Basin at agronomic rates as long as significant progress is being made towards the construction and operation of a second desalter within the Chino Basin). Tentative Order No. 99-11 does not prohibit the on-site discharge of wash water, rainfall runoff from corrals, or drainage from manure stockpiles, since the salt loadings from these discharges appear to be offset by the salt that will be removed by the desalter facility.

#### Removal of Manure from the Facility

Tentative Order No. 99-11 requires that manure be hauled from each facility within 180 days after being removed from the corrals. Any manure remaining at the facility after 180 days of being removed from the corrals is considered to be disposal of manure and is prohibited by Tentative Order No. 99-11. Draft Order No. 99-11, which was distributed for comments in March and April

1999, proposed requiring the removal of manure from the facility within 90 days after removal of the manure from the corrals. Several comments were received in writing and orally at Board Workshops, stating reasons why this time frame was unreasonable. Board staff also solicited comments from farm advisors with the University of California Cooperative Extension. It was determined that it is beneficial to “cure” manure for 90 to 180 days prior to composting or for application to cropland, and that the nutrient value of the manure is not significantly affected when manure is stored for less than 180 days. During the winter, 90 days would not allow sufficient time for the manure to dry adequately prior to hauling. Providing 180 days of storage will allow the moisture content of the manure to be sufficiently reduced, making it lighter per unit of volume, and easier and less expensive to haul. Some commercial fertilizer facilities in the Chino Basin prefer receiving manure that has been aged for at least 150 days. Also, CAFOs generally remove manure from their corrals twice a year. Allowing up to 180 days (6 months) storage will result in manure being removed from the facility prior to the next corral cleaning, and will still achieve the goal of preventing the long term accumulation of manure at CAFOs. Board staff believes that allowing for 180 days storage is reasonable, and that there would be no significant difference in water quality impacts from storing manure at the facility for 180 days instead of 90 days.

#### Change in Language Pertaining to Containment of Storm Water Runoff

Order No. 94-7 and Draft Order No. 99-11 included the following Discharge Specification: “The discharge to any surface water bodies, or tributary thereof, is prohibited unless a chronic, catastrophic or cumulative rainfall causes overflow from a storage facility designed, constructed, maintained and operated to contain all process generated wastewater plus the runoff from a 24-hour, 25-year storm.” These Orders defined a chronic, catastrophic or cumulative rainfall as rainfall occurring over a 7-day period or less which is equivalent to that from a 24-hour, 25-year storm event. This language is slightly different than similar language included in the CWA that does not refer to “cumulative” rainfall, and does not contain a definition that refers to rainfall “occurring over a 7-day period.” The specification included in Order No. 94-7 and Draft Order No. 99-11 is, overall, more stringent than the language in the CWA, and was developed to provide a more objective basis for determining compliance with the rainfall containment requirement and to be consistent with the Board’s EWMP Guidelines. However, the USEPA, and others, have noted that there could be instances during certain storm events of less than 7 days when the specification included in Order No. 94-7 and Draft Order No. 99-11 can be less restrictive than the language included in the CWA. They have requested that the language proposed in Draft Order No. 99-11 be changed to be consistent with the language in the CWA, since NPDES permits cannot contain requirements that can be less restrictive than the CWA. Therefore, the term “cumulative” and the reference to rainfall “occurring over a 7-day period” has been removed from Tentative Order No. 99-11 to make the rainfall containment requirement consistent with the CWA.

#### Consistency with USDA/USEPA “Unified National Strategy for Animal Feeding Operations”

In March 1999, the United States Department of Agriculture (USDA) and the USEPA finalized their unified national strategy for AFOs. Among other items, the national strategy recommended

that general permits require the development and implementation of Comprehensive Nutrient Management Plans (CNMPs). In general, development and implementation of CNMPs is intended to bring each CAFO into compliance with the requirements of the CWA and to minimize the impacts to groundwater and surface water by the implementation of best management practices. The national strategy describes many best management practices that could be included in CNMPs for individual CAFOs. The best management practices included in each CNMP for each CAFO would include specific best management practices for that CAFO, depending on the specific situations that exist at that particular CAFO. In general, the CNMP would assure that appropriate wastewater facilities were developed, constructed and maintained to comply with the requirements of the CWA, and that the use and application of waste water and manure (i.e., nutrient management) was managed to minimize impacts to groundwater and surface water. Tentative Order No. 99-11 does not require the development and implementation of CNMPs, as described and recommended in the national strategy. This is because the requirements included in Tentative Order No. 99-11 are equivalent to, or more stringent than, what would be required in CNMPs. Also, many of the BMPs recommended to be included in CNMPs are not relevant to the specific, isolated conditions that exist in the Chino Basin. The requirements in Tentative Order No. 99-11 for wastewater and rainfall are equivalent to what the national strategy requires. General BMPs that can be implemented to comply with the wastewater and rainfall containment requirements will be further addressed in the Board's EWMP Guidelines when they are revised in the near future. Specific BMPs that will be implemented at each CAFO to comply with the wastewater and rainfall containment requirements will be addressed in each CAFO's specific EWMP. The prohibition on the application of manure in the Chino Basin is obviously a more stringent requirement than the BMPs for manure application and management that the national strategy recommends to be included in CNMPs, since application of manure is not permitted. The limitation on the application of manure to agronomic rates, not to exceed 12 (dry) tons (17.5 tons @ 33% moisture) per acre per year, in groundwater basins outside the Chino Basin where assimilative capacity exists and application of manure is permitted, is equivalent to the nutrient management guidelines included in the national strategy. Specific BMPs addressing application of manure will be included in each CAFOs specific EWMP.

#### Prohibition on Covering New Discharges in the Chino Basin Under this Order

The 1998 California 303(d) List and TMDL Priority Schedule includes several surface water bodies as impaired due to CAFOs, including Chino Creek, Mill Creek (Prado Area), and Reach 3 of the Santa Ana River for nutrients, pathogens, salinity/TDS/chlorides, and suspended solids. The CWA states that NPDES permits cannot be issued to a new source (discharger) if the discharge will cause or contribute to the violation of water quality standards, unless certain specified criteria are met, including the development of TMDLs. In the absence of a current TMDL, USEPA has recommended that this general permit be limited to current facilities, and that any new sources (i.e., construction of any new facilities) be processed through an application for an individual NPDES permit. Therefore, Tentative Order No. 99-11 prohibits new sources (i.e., new facilities) from being covered under this general permit. Since the most recent new construction of a CAFO facility in

the Chino Basin was approximately 20 years ago, this prohibition is not expected to be a significant issue.



### Inability of Many CAFOs to Immediately Comply with Several Requirements Included in this Order

Many CAFOs will not be able to immediately comply with several of the requirements contained in Tentative Order No. 99-11. These requirements include the prohibition on the application of manure in the Chino Basin, implementation of EWMPs and containment of rainfall from a 24-hour, 25-year storm. The Board will consider adoption of a Cease and Desist Order No. 99-65 with a time schedule for compliance with these requirements.

### **III. Coverage Under the General NPDES Permit**

#### **A. Dischargers Currently Regulated Under Order No. 94-7 or Under Individual Waste Discharge Requirements, and Dischargers that have Submitted NOIs**

These dischargers will be automatically enrolled under the proposed order, once it is adopted. Dischargers who have not yet submitted an acceptable EWMP (see Attachment "B" of the order) are required to do so.

#### **B. Dischargers Not Currently Regulated Under Order No. 94-7 or Under Individual Waste Discharge Requirements, and Dischargers that have not Submitted NOIs:**

At least 60 days prior to initiating a discharge at an existing facility, the discharger shall submit a Notice of Intent (NOI) (see Attachment "A") with the appropriate filing fee (currently, the filing fee is \$2,000.00 for each facility) and an acceptable EWMP<sup>2</sup>.

### **IV. Discharge Authorization Letter**

Upon adoption of this order, the Executive Officer shall issue discharge authorization letters to dischargers currently enrolled under Order No. 94-7, discharging waste under individual waste discharge requirements or who have submitted an NOI to be covered under a general permit.

Upon receipt of a complete application for initiation of a discharge at an existing facility, the Executive Officer will review the application to determine eligibility for discharge under this order. If the Executive Officer determines that the discharger is eligible to discharge wastes under this general order, the Executive Officer may authorize the proposed discharge. Otherwise, the Executive Officer may require the discharger to obtain individual waste discharge requirements.

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<sup>2</sup> New operators/owners of existing facilities for which an EWMP has been approved are not required to submit an additional EWMP.

**V. Antidegradation Analysis**

The Regional Board conducted extensive TDS and nitrate studies using computer models to determine acceptable salt loading rates to groundwater from various land uses, including dairies and other concentrated animal feeding operations. These studies indicate that if the requirements specified in the proposed general permit are met, water quality of the Region is not expected to degrade as a result of discharges authorized under this general permit. The Regional Board, in establishing the requirements in the tentative order, has taken into consideration the requirements of the State and Federal "antidegradation policies" and has determined that the discharges are in conformance with the antidegradation policies.

**VI. Written Comments**

All written comments regarding the proposed general order should be submitted to: Robert Holub, Regional Water Quality Control Board, 3737 Main Street, Suite 500, Riverside, CA 92501.

**VII. Information and Copying**

Persons wishing further information may write to the address given below (see IX, below) or call the Regional Board at (909) 782-4130. Copies of the proposed waste discharge requirements, and other documents (other than those which the Executive Officer maintains as confidential) are available at the Regional Board office for inspection and copying by appointment scheduled between the hours of 10:00 a.m. and 4:00 p.m., Monday through Thursday (excluding holidays).

**VIII. Register of Interested Persons**

Any person interested in a general permit, or in a particular application or group of applications, may leave his name, address, and phone number as part of the file for an application. Copies of tentative waste discharge requirements will be mailed to all interested parties.

**IX. Workshops and Public Hearing**

The Regional Board conducted public workshops on April 9, 1999, May 21, 1999, and June 25, 1999, to solicit comments on the draft general waste discharge requirements that were distributed in March and April 1999. Oral comments were received during these workshops, and written comments were submitted by several parties. These comments were considered by staff and incorporated into Tentative Order No. 99-11, as appropriate.

The Regional Board will hold a public hearing and consider adopting Tentative Order No. 99-11 during a public meeting on August 20, 1999, beginning at 9:00 a.m. The meeting will be held at the City Council Chambers of Loma Linda, 25541 Barton Road, Loma Linda.

Further information regarding the conduct and nature of workshops and public hearings concerning waste discharge requirements may be obtained by writing or visiting the Santa Ana Regional Board office, 3737 Main Street, Suite 500, Riverside, 92501 or by calling Robert Holub of Regional Board Staff at (909) 782-3298.

California Regional Water Quality Control Board  
Santa Ana Region

August 20, 1999

ITEM: 10

SUBJECT: General Waste Discharge Requirements For Concentrated Animal Feeding Operations (Dairies And Related Facilities) Within The Santa Ana Region, Order No. 99-11, NPDES No. CAG018001

DISCUSSION:

See attached Fact Sheet

RECOMMENDATION:

Adopt Order No. 99-11, as presented.

Comments were solicited from the following agencies and/or persons:

U.S. EPA, Washington, Office of Wastewater Enforcement and Compliance - Michael B. Cook

U.S. EPA, San Francisco – Alexis Straus

U.S. EPA, Permit Issuance Section - Terry Oda (W-5-1)

U.S. EPA, San Francisco – Dan Meer

State Water Resources Control Board, Office of the Chief Counsel - Ted Cobb

State Water Resources Control Board, DWQ – Jim Kessel, Jack Hodges, Cheryl Closson

State Department of Water Resources - Glendale

State Department of Health Services - San Bernardino/Santa Ana/San Diego

State Department of Fish and Game - Fred Worthley

Regional Water Quality Control Board (1) - Lee Michlin

Regional Water Quality Control Board (2) - Loretta Barsamian

Regional Water Quality Control Board (3) - Roger Briggs

Regional Water Quality Control Board (4) - Dennis Dickerson

Regional Water Quality Control Board (5) - Gary Carlton

Regional Water Quality Control Board (6) - Harold J. Singer

Regional Water Quality Control Board (7) - Philip Gruenberg

Regional Water Quality Control Board (9) - John Robertus

San Bernardino County Board of Supervisors

San Bernardino County Department of Environmental Health Services - Pam Bennett

San Bernardino County Transportation/Flood Control District - Naresh Varma

San Bernardino County LEA

Riverside County Board of Supervisors

Riverside County Department of Environmental Health Services

Riverside County Flood Control and Water Conservation District - Jason Christie  
Riverside County LEA  
City of Chino  
City of Ontario  
Milk Producers Council - Robert Feenstra  
California Milk Producers Association – John Godino  
Santa Ana Watershed Project Authority - Joseph Grindstaff  
Inland Empire Utilities Agency – Doug Drury  
Orange County Water District - Bill Mills, Nira Yamachika  
U.C. Extension, San Bernardino - Abraham Wubishet  
Inland Empire West Resource Conservation District - Jeff Wilson  
National Resource Conservation Service - Jim Earsom  
City of Lake Elsinore – Dick Watenpaugh, Pat Kilroy  
Eastern Valley Municipal Water District  
Western United Dairymen - Gary Conover, John Borges  
Chino Basin Watermaster - Tracy Stewart  
Daily Bulletin - Bob Page  
Orange County Register  
Press Enterprise - Leslie Bergman  
Northwest Mosquito and Vector Control District  
Santa Ana River Watershed Group - Lindel Marsh  
Orange County Sanitation District - Blake Anderson  
Water Advisory Committee of Orange County – H. E. Hartge  
Los Alisos Water District – Kenneth Petersen  
Municipal Water District of Orange County – Stanley E. Sprague  
El Toro Water District – Ronald Kennedy  
Mesa Consolidated Water District – Fred Bockmiller  
Irvine Ranch Water District – Paul D. Jones II  
Metropolitan Water District – Bob Huntley  
Yorba Linda Water District – Arthur C. Korn  
City of Anaheim, Public Utilities Department – Edward K. Aghjayan  
Dairy Mailing List